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GENERAL INFORMATION

INTRODUCTION

Congratulations on purchasing this product, which we are certain will meet your needs and expectations. This project was created by ZUCCHETTI CENTRO SISTEMI S.p.A. (UNI EN ISO 9001 certified company), a software house that since 1982 has consolidated its activities and presence on the international market.

Applying advanced IT solutions in the field of industrial automation means optimising the production activities and simplifying the work procedures. This product was created on the basis of on-going research by ZUCCHETTI's laboratories.

PURPOSE OF THE MANUAL

- This manual forms an integral part of the appliance and was produced by the Manufacturer to provide the necessary information to people authorised to interact with it during its working life.
- Operators of the appliance must adopt correct working practices and must carefully read and follow all the instructions contained in this manual.
- This manual is written by the Manufacturer in the original language of Italian and may be translated into other languages to meet legal and/or commercial requirements.
- Carefully read the instructions contained in this manual to avoid any unnecessary risks to people's health and safety, as well
 as economic damages.
- Keep this manual in a safe and easily accessible place for quick reference.
- Some information and illustrations contained in this manual may not perfectly correspond with the appliance in your possession; however, this does not affect its functioning.
- · The Manufacturer reserves the right to make changes without any obligation to provide prior notice.
- The following symbols are used throughout this manual to highlight some particularly important information or to identify some important specifications.



EN

Danger - Attention

This symbol indicates situations involving imminent danger, which, if ignored, could put people's health and safety at risk.



Warning - Caution

This symbol indicates situations where it is necessary to behave in a certain way in order to avoid putting people's health and safety at risk, and to protect the device.

2



Important

This symbol identifies particularly important technical information which must not be ignored.

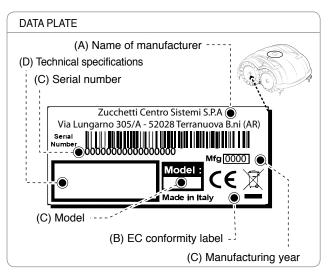
IDENTIFICATION OF MANUFACTURER AND EQUIPMENT

The nameplate shown here is applied directly onto the appliance. It contains references and all the information essential for safely operating the device.

For any technical requirements, please contact the Manufacturer's Technical Service Centre or an authorised dealer.

For technical assistance, please indicate the data reported on the identification plate, the approximate hours of use and the type of fault detected.

- A. Name of manufacturer.
- B. CE conformity label.
- C. Model / serial number / manufacturing year.
- D. Technical data: voltage, current, protection rating, mass, cutting width.



SAFETY INFORMATION



SAFETY REGULATIONS

- During design and construction, the manufacturer carefully considered the possible hazards and personal risks that may
 result from interacting with the equipment. In addition to observing the applicable laws in force, the manufacturer adopted all
 the "good manufacturing practice regulations." The purpose of this information is to inform users on the need to use extreme
 caution to avoid risks.
- Before using the first time, read the entire manual carefully and make sure you have understood it completely. It is important that you have understood all the information regarding safety.
- Lift and handle the equipment according to the information reported on the packaging, on the appliance and in the user instructions supplied by the Manufacturer.
- Pay attention to the symbols that appear on all the safety labels. They are coded by shape and colour for safety purposes. Keep them legible and always follow the instructions indicated.
- The lawnmower robot may only be used by people who know how it works and who have read and understood the manual.
- Only use the machine for uses foreseen by the manufacturer. Using the machine improperly can cause risks for people's
 health and safety and economic damage. Bear in mind that the operator or user is responsible for accidents or unexpected
 events occurring to other people or their property.
- Before using the lawn mower robot, make sure there are no objects on the lawn (toys, tree branches, clothing items, etc.).
- This device is not meant to be used by persons (including children) with restricted physical, sensory or mental capabilities or lacking in experience and/or knowledge, unless they are supervised by a person responsible for their safety or instructed on the use of this device. Children must be supervised so that they do not play with the machine.
- If the power cable of the transformer is damaged, it must be replaced by the manufacturer or its customer service centre or a similarly qualified person in order to prevent all risks.
- To prevent safety risks, make sure that while the robot is operating, there is no one (in particular children, the elderly or the disabled) and pets in the working area. Monitor the device if you know that pets, children or other persons are nearby.
- · Never allow people to sit on the robot.
- · Never lift the robot to inspect the blade while it is running or to carry it.
- Do not place hands and feet under the robot when it is in operation and moving, especially near the wheel area.
- Never remove, bypass or tamper with the safety devices installed. The failure to observe these requirements may lead to serious personal health and safety risks.
- Perform all maintenance activities recommended by the manufacturer. Proper maintenance will allow obtaining the best performances and longer operating times.
- Before releasing or doing any maintenance and adjustments that can also be done by the user with a minimum of technical

skills, please disconnect power and activate the safety device. However, the user must take all necessary safety precautions, in particular when working on the bottom of the lawnmower robot, following procedures indicated by the manufacturer.

- Use the personal protection devices recommended by the Manufacturer, in particular, always wear protective gloves when handling the cutting blade.
- · Before replacing the batteries, always remove the blade.
- Make sure the air vents of the power supply unit are free and clear of residuals.
- To avoid irreversible damage to the electric and electronic parts, do not wash the robot with water jets at a high pressure and do not immerse it in water, partially or completely, as it is not watertight.
- Operators who perform repairs during the working life of the robot must have the necessary technical expertise, skills and experience in this specific field. The lack of these requirements may be hazardous to the health and safety of people.
- Inspect the robot at regular intervals to ensure that the blade, the assembly screws and the cutting mechanism are not worn or damaged. Replace badly worn parts using original spare parts to ensure proper function and the required safety level.
- Make sure that all nuts, bolts and screws are tightened to ensure that the robot is in good operating conditions.
- The robot cannot be used without the top cover. If the mechanical parts of the robot are damaged, replace them.
- · Any routine or extraordinary maintenance (e.g. battery replacement) must be performed by an authorised service centre.
- The Manufacturer shall not be held liable if non-original spare parts are used.
- Never use and recharge the robot in explosive and/or flammable environments.
- To recharge the robot, use only battery chargers and power supply units provided by the supplier. Improper use may cause electric shocks, overheating or leakage of corrosive liquids from the battery. If any liquid leaks, the battery must be washed with water / neutraliser; seek medical assistance for contact with the eyes.

SAFETY DEVICES

1. Bumpers

The bumper sensor is activated if the robot strikes a solid object greater than 9 cm (3.54 ") in height, which stops the movement in that direction and moves backwards to avoid the obstacle.

2. Inclinometer

If the robot works on a slope which is steeper than the maximum limit, or tips over, the robot will stop the cutting blade.

3. Emergency stop switch

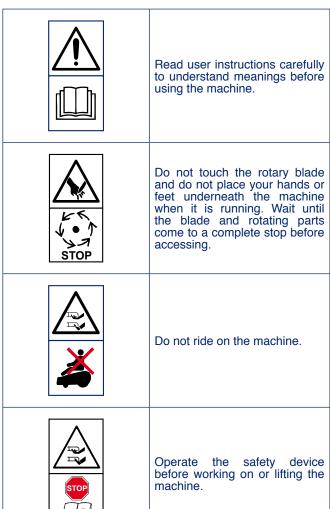
Located on the control panel with the word "STOP" larger than the other commands on the keypad. Pressing this button at any time during operation will immediately stop the movement of the lawnmower robot and the rotation of the blade will stop within 2 seconds.

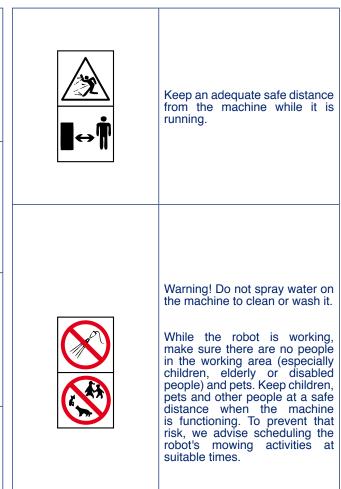
4. Over-current protection

Each motor (blade and wheels) is monitored continuously during operation for any situation that may cause them to overheat. If this occurs in the wheel motor, the robot will attempt to move in the opposite direction. If the over-current persists, the robot will stop and signal an error. If the cutting blade motor overheats, there are two intervention ranges. If the parameters fall within the first range, the robot will perform the manoeuvres to unblock the cutting blade. If the over-current is below the protection range, the robot will stop and signal a motor error.



SAFETY SIGNALS





TECHNICAL SPECIFICATIONS

		Model	
Description		L50BEU	L50DEU
Maximum recommended surface that	can be mowed		
Robot (*)	m ² (sq ')	400 (4300')
Features			
Dimensions (W x H x D)	mm	409x1	99x335
Robot weight (incl. battery)	kg	7,9	8,2
Cutting height (Min-Max)	mm (")	42-48 (1	.65-1,88 ")
Diameter of blade with 4 cutting edges	mm (")	250 (9	9,84 ")
Drive system		4\	VD
Electric motors	V	cc. (2	25.2 V)
		4000	cutting
Cutting blade speed	RPM	3000 ma	intenance
Ground speed	Metres / Minute	18 (59 ')	
Maximum recommended slope (*)	%	50%. Allowable, based on the lawn conditions and accessories installed. 40%. Maximum. In regular lawn conditions.	
		ROBOT -10°(14 F.) (Min) +42° (107 F.) (Max)	
Ambient operating temperature	Max °C	BATTERY CHARGER -10°(14 F.) (Min) +40° (104 F.) (Max)	
Measured noise level	dB(A)	72 (Max) – 65 (la	awn maintenance)
Water protection class	IP	IP	21
Electrical features			
Power supply unit (for lithium battery)		Meanwell apparatus certificate ELN-60-27 - Class 2 Input: 100 - 240 V~; 1,2 A; 50/60 Hz Output: 29.3 V; 2,3 A	
Type of accumulator and charging bar	tteries		
Rechargeable Lithium-Ion Battery		25.2V – 6.9Ah	
Battery charger		29.3 Vcc - 2,3 Ah	
Average recharging time and method	hh:mm	3:00 - manual	
Average operating time (*)	hh:mm	3:30	
Blade safety stop			
Rollover sensor		stan	ndard
Emergency button		standard	

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Equipment and accessories				
Grass detection sensor (patented)	N.	6		
Curb drop-off sensors (Step) (Patented)		optional standard		
Blade modulation and intelligent spira		standard		
Mowed lawn detection sensors (patented)		standard		
8-pronged blade		Specifically for early season rapid growth and for lawns that need greater mowing power.		
		optional		
Cleaning disc (patented)		Disc that is fitted above the cutting blade. It helps keep the underbody clean. Specially indicated for areas where the grass is very wet.		
		optio	onal	

(*) Depending on the condition of the grass and lawn surface

GENERAL DESCRIPTION OF THE APPLIANCE

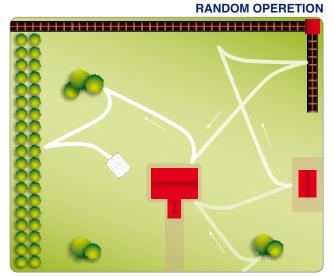
The appliance is a robot designed and built to automatically cut grass in gardens and lawns at any time of the day.

It is small, compact, silent and easy to handle depending on the type of lawn that is being mowed.

During operation, the robot mows the area delimited by paving and/or barriers (fences, walls, etc.).

When the robot detects that there is no grass or encounters an obstacle, it changes route in a random manner and starts mowing again in a new direction.

Based on its operating principle ("random"), the robot automatically mows the entire delimited area of the lawn (see figure).



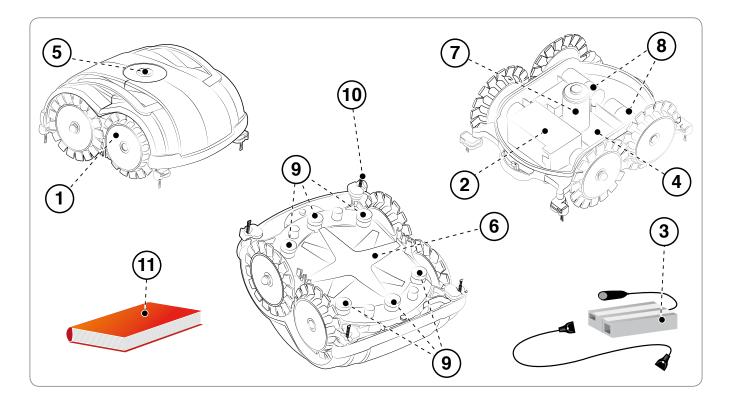
The maximum lawn surface that the robot can mow depends on a series of factors, such as:

- the characteristics of the area (irregular perimeters, uneven surfaces, divided areas, etc.).
- the characteristics of the lawn (type and height of the grass, humidity, etc.).
- the condition of the blade (level of sharpness, grass or debris buildup, etc.).
- the model of the robot and type of batteries installed.

MAIN PARTS / STANDARD EQUIPMENT

- 1. Robot.
- 2. Battery: supplies power to the blade and wheel motors
- 3. Power Supply Unit: used to recharge or keep the batteries charged.
- 4. Mother board: controls the automatic functions of the robot.
- 5. Control keyboard: used to set and display the operating modes of the robot.
- 6. Cutting blade: mows the lawn.
- 7. Electric motor: operates the cutting blade.
- 8. Electric motor: one operates the right wheel transmission unit, while the other operates the left wheel.
- 9. Sensors: used to recognise the characteristics of the ground on which the robot is operating.
- **10. Curb drop-off sensors:** detect any holes or empty spaces. They are positioned in line with the wheels making it easy to change direction before any steps.

11. User manual.



8



PACKING AND UNPACKING

The equipment is delivered suitably packaged. When unpacking, carefully remove and check the integrity of the parts.



Warning – Caution

Keep plastic wrapping and plastic containers away from infants and children: risk of suffocation!



Important

Keep the packaging materials for future use.

PLANNING OF SYSTEM INSTALLATION

The robot is not difficult to install, but requires some preliminary planning in order to define the best area for installing the power supply unit.

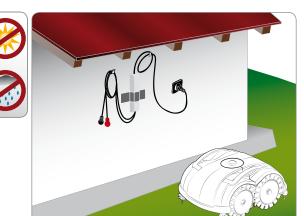
Position the power supply unit in an easy to access zone.

- The power supply unit must be in a well-ventilated area, protected from direct sunlight and exposure to the elements.
- The power supply unit must not be in direct contact with the ground or humid environments.



Warning – Caution

Position the power supply unit in an area that cannot be reached by children. For example, at a height above 160 cm (63 ").





Warning - Caution

When connecting the electricity, it is necessary that a power outlet is positioned near the installation area. Make sure the connection to the mains power complies with the applicable laws. To operate in complete safety, make sure the electrical system, which is connected to the power supply unit, is equipped with a well-functioning earthing system.



Important

It is advisable to install the unit in a cabinet for electric components (for outdoor or indoor use), equipped with a key lock, and well-ventilated to maintain a correct air circulation.



Warning – Caution

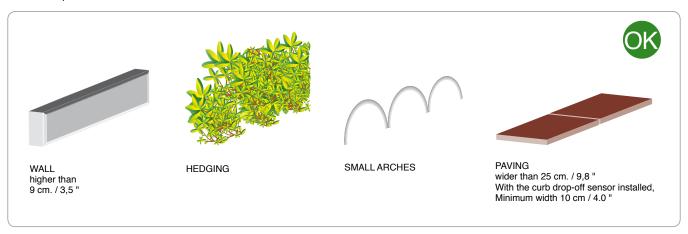
Make sure only authorised people have access to the power supply.

PREPARATION AND MARKING THE BOUNDARIES OF THE WORK AREAS

preparation of the lawn to be mowed

- 1. Make sure that the lawn to mow is even and does not contain holes, stones or other obstacles. Otherwise, prepare the lawn by filling in any holes and removing any obstacles. If some obstacles cannot be removed, it is necessary to properly define and protect the interested areas.
- 2. Check that all the areas of the lawn do not exceed the allowable slopes (see "Technical Specifications").

The sensors, which recognise the presence of the grassy surface, allow the robot to move freely inside the lawn. The lawn must be suitably checked and adjusted so that the robot has enough space for recognising when there is no grass. Carefully follow the below points for the correct and safe use of the robot.

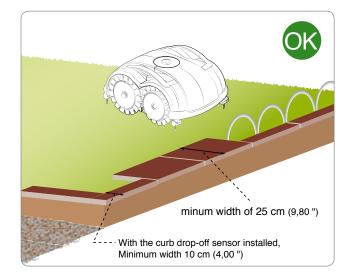


Types of boundaries/protections that can be used for correctly defining the limits of the robot's work area.

Pavement

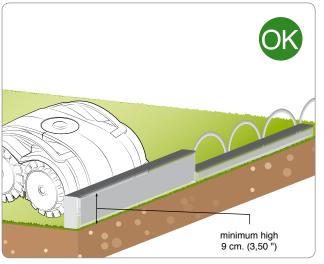
The robot requires at least 25 cm (9.84 ") without any grass for it to stop safely and change direction. For lawns with paths or curbs, they must be at least 25 cm (9.84 ") wide. Any curbs that are less than 25 cm (9.84 ") side, must be protected with paving or arches in the ground, as shown in the figure, so that the robot impacts with them.

The robot with the curb drop-off sensor installed needs 10 cm $(4,00\ ^{"})$ without any grass.



Wall

Perimeter wall, which defines the boundary of the work area at a height above 9 cm. (3.54 $^{\circ}$). If the walls are shorter, protect the area with arches or adequate paving.



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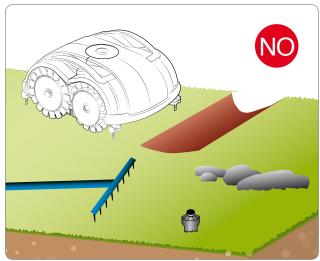
Hedging

The work area can also be effectively delimited by hedges.



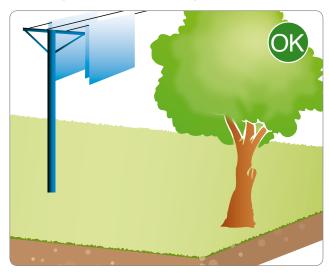
Holes

The work area cannot be delimited by ditches or holes which must not be present inside the grassy area to mow. Before starting the robot, check that there are no objects on the lawn such as toys, small stones, branches or sprinklers protruding from the ground which could impede correct functioning or cause damage to the blade.



Obstacles and protections

The illustrations show an example of the internal and peripheral elements of the correct work area. If elements such as tree roots or exposed wires are present, it is necessary to delimit the perimeter of these elements with paving, walls or barriers to prevent the malfunctioning of the robot. Elements (trees, poles, etc. ref. fig. obstacles) which do not impede the robot's normal functioning do not require delimiting.

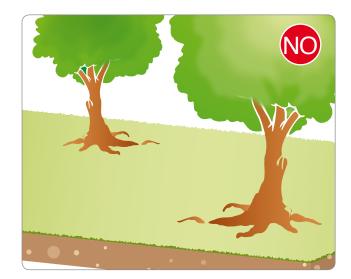




Roots

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Do not, under any circumstance, leave areas which have not been delimited by barriers inside the work area, as these will prevent the robot from functioning properly (roots, external pipes, work tools, etc.).

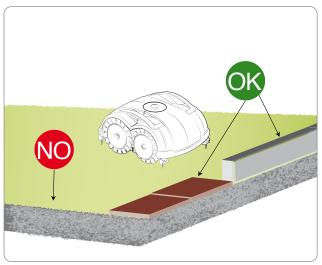


Fine gravel



Danger - Attention

If fine gravel, leaves or small stones are used to border the lawn, they are not detected correctly by the robot. Protect the lawn with other borders.

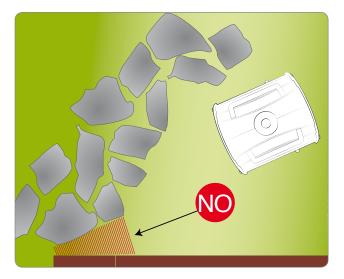


Sharp corners



Danger - Attention

In areas of the lawn that end in narrow spaces as shown in the figure, the robot cannot move easily, therefore this part of the lawn must be excluded because the robot would exit the borders.



SLOPES

Check that all the areas of the lawn do not exceed the admissible slopes (see "Technical Specifications"). Areas with steeper slopes or that are incompatible with the correct functioning of the robot (see following points) cannot be mowed. Steeper slopes must be delimited.

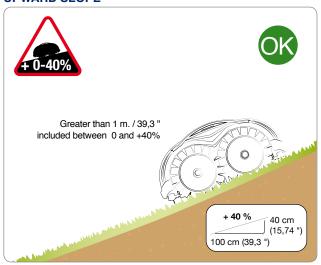


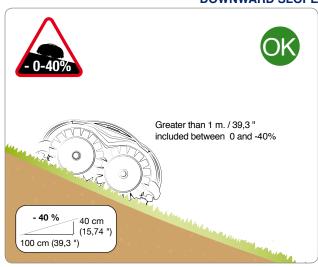


Important

The sensors of the robot can detect slopes greater than the robot can manage. The direction is reversed in order to prevent the robot from tipping over or malfunctioning. In addition, as a further protection, it is necessary to delimit the areas, which have slopes that cannot be managed. It is recommended to test the robot when using for the first time on slopes that are at the limit of the specifications.

UPWARD SLOPE DOWNWARD SLOPE





The robot can tackle height differences with a slope of up to 40% provided that they gradually slope down over a distance of more than one metre.

STEEP SLOPES

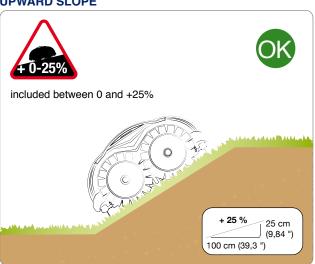
The robot's safety system will interpret sudden changes in the slope (greater than 25%) as an anomaly and therefore, will reverse the direction and bring the robot back to safety continuing to mow the lawn. Tree trunks which gradually rise from the ground or stones positioned to mark the boundary of flower-strips which gently descend onto the grassy surface are also interpreted as slope changes.



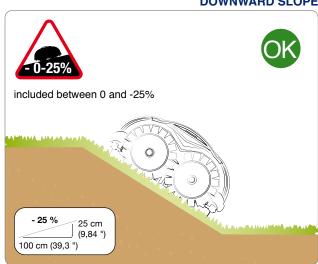
Important

Check the robot when using for the first time on slopes that are at the limit of the specifications.

UPWARD SLOPE



DOWNWARD SLOPE

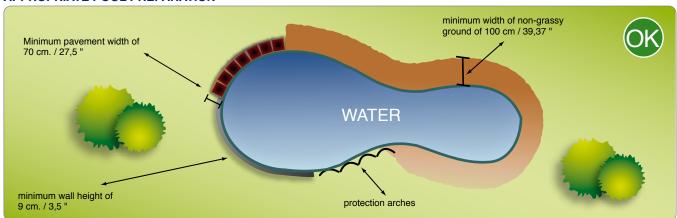


The robot can tackle height differences with slopes of up to 25% if they slope down suddenly.

Areas with slopes greater than those specified cannot be mowed with the robot.

POSSIBLE ELEMENTS INSIDE THE WORK AREA AND RELATIVE SAFETY DISTANCES

APPROPRIATE POOL PREPARATION



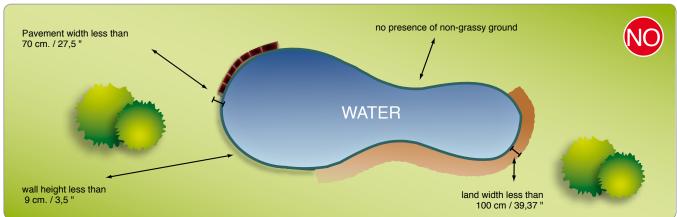
The figure above shows a work area which has been correctly delimited for the correct functioning of the robot.



Important

Foliage is usually detected as grass. In case of foliage, we suggest to increase the distance from the edge by about 20 cm (7,88 ").

INAPPROPRIATE POOL PREPARATION



The figure above shows a work area where the robot's operating areas have not been correctly delimited, thus preventing it from functioning properly.

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BATTERY RECHARGE ON FIRST USE

Position the robot next to the recharging zone.

- 1. Check that the power supply unit is connected to the electricity power (110V or 220V).
- 2. Connect the black plug to the wheel containing the black "-" symbol.
- 3. Connect the red plug to the wheel containing the red "+" symbol.

Once connected, the robot automatically turns on to show the recharging level of the batteries. (see "meaning of LED combination").

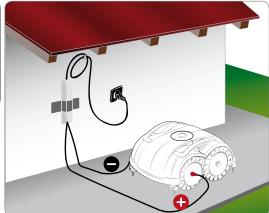
Once completely charged, disconnect the robot and press "OFF/ON"

The figure shows the correct installation of the robot's recharging zone. Correctly connect the recharging knobs to the nuts found on the wheels of the robot.



On first recharge, the batteries be charged connected for at least 4 hours.





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ADJUSTMENT RECOMMENDATIONS



Important

The user must follow the procedures described in this manual when making any adjustments. Do not make any adjustment which is not expressly indicated in this manual. Any special adjustments, not expressly indicated in this manual, must only be carried out by personnel from the Manufacturer's Authorised Service Centres.

ADJUSTMENT OF CUTTING HEIGHT

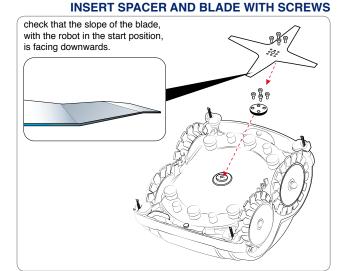
- Stop the robot safely by pressing the "ON/OFF" key (see "Robot safety stop").
- Turn over the robot and position it so as not to ruin the covering hood.



Important

Use protective gloves to prevent injury to your hands.

- 3. Unscrew the screws to remove the blade.
- 4. Insert or remove the spacer to adjust the cutting height.
- 5. Reposition the blade and fasten the screws.
- **6.** Turn the robot over to its operating position.





Important

Reduce the cutting height gradually. It is recommended to add the spancer every 2÷3 days until the ideal height of the grassy surface is reached gradually.

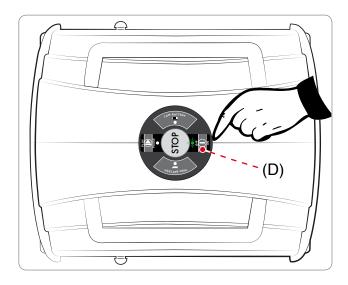
OBLIGATIONS FOR USE

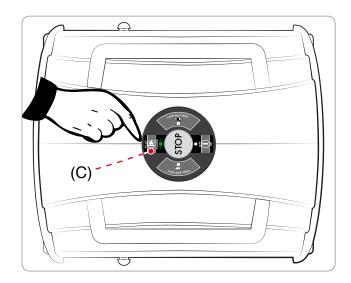


Important

- When using the robot for the first time, it is recommended to carefully read the entire manual and to fully understand it, especially the safety information.
- Only use the robot for the uses intended by the Manufacturer and do not tamper with any device to obtain different performances.

DESCRIPTION OF ROBOT COMMANDS





The illustration shows the position of the commands on the machine.

- D. ON/OFF: press to turn the robot on and off.
- C. PLAY/PAUSE: press to start or stop the robot when it is on standby.

MEANING OF LED COMBINATIONS

IN OPERATION ROBOT

A. HIGH BATTERY: (GREEN LED STEADY ON)

full battery level.

B. LOW BATTERY:

(RED LED 1 FLASH) medium battery level.

(RED LED STEADY ON) low battery level.

C. PLAY/PAUSE:

(YELLOW LED STEADY ON) in pause / in pause due to low battery.

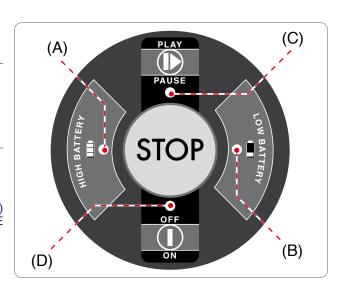
(YELLOW LED SLOW FLASHING) Robot in standby. Press the PLAY/PAUSE key to display the status of the LEDs.

(1) (YELLOW LED 1 FLASH) the lawn has been mowed.

2 (YELLOW LED 2 FLASHES) no lawn present.

D. ON/OFF:

(GREEN LED STEADY ON) robot in operation.



RECHARGING ROBOT

A. HIGH BATTERY: (GREEN LED STEADY ON)

full battery level.

(GREEN LED 1 FLASH) medium battery level.

B. LOW BATTERY:

RED LED STEADY ON)

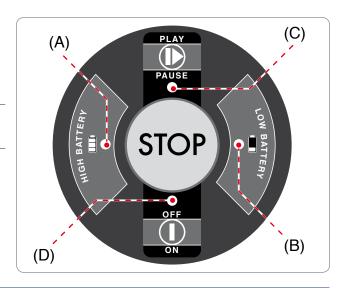
low battery level.

C. ON/OFF:

EN

(GREEN LED STEADY ON)

robot in operation.



START-UP

- 1. Check that the grassy surface of the lawn to mow is at a height which is compatible with the proper functioning of the robot (see technical specifications).
- 2. Adjust the desired cutting height (see cutting height adjustment).
- 3. Check that the work area is correctly delimited and that there are no impediments to the correct functioning of the robot as indicated in the section "Preparation and defining the boundaries of the work areas" and following sections.
- 4. Disconnect the robot from the recharging area.
- 5. Position the robot inside the grassy surface in an area where the grass is at least 1 metre (40.00 ") from any obstacle.
- 6. Press the "OFF/ON" key and wait a few seconds for the robot to turn on completely.
- 7. Press "PLAY/PAUSE" key to start the robot.

Once the robot has stopped due to the reasons described in the chapter "Robot Stop", activate the safety stop and reposition the robot inside the power supply unit for recharging.



Important

For a better cutting performance and correct functioning of the recognition sensor, do not start the robot in case of rain or in very humid conditions. The best results are obtained in the middle of the day.

OPERATION WITH DELAYED START

If necessary, the robot can be delayed to start by up to 24 hours.

Press the "OFF/ON" button. After a few seconds the robot switches completely on. Press briefly the "OFF/ON" button at intervals of 1 second, as many times as the hours of delay of departure.

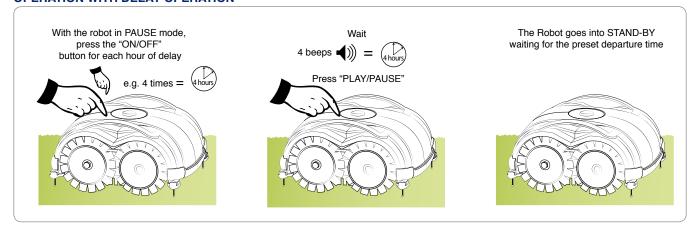
On completion of the sequence, wait for the robot to confirm the delay setting with the sound of a beep.

The robot will be in standby until the working cycle resumes the established time.



Important

In case of errors, turn off the robot by keeping the "ON/OFF" button pressed, and resume the start-up sequence.



STARTING THE ROBOT WITH THE SENSORS TURNED OFF

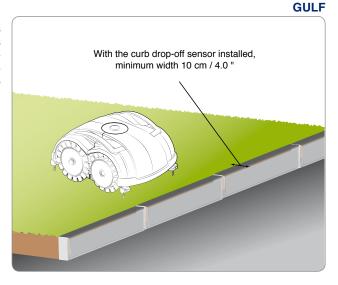
In certain lawn conditions, the robot can be started with the lawn and curb drop-off sensors deactivated, which means the robot can be started when lawn conditions are such that correct functions are not guaranteed, for example with very short or patchy grass.

This mode requires very special attention from the user, and the dealer should be consulted before attempting to operate in this mode.

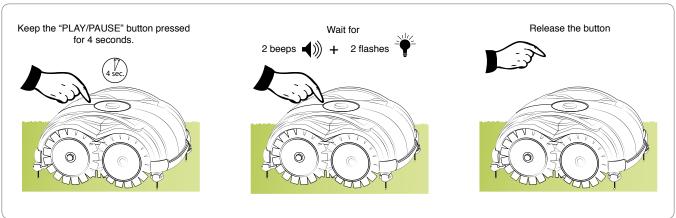
When the robot is on Pause, these modes can be activated following this procedure:

Grass Sensor Off – Curb drop-off sensor On:

Press the "PLAY/PAUSE" button and keep it pressed for 4 seconds until 2 consecutive beeps are heard and the PAUSE led flashes twice. This mode must only be used on models with the curb dropoff sensor installed, and it allows working with just the 4 curb dropoff sensors. This mode is recommended in gardens where the lawn is lower than the sensors but still very uniform.



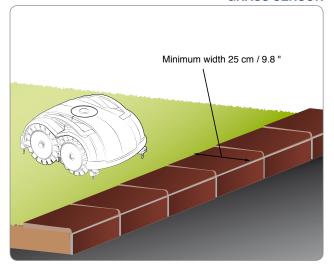
GRASS SENSOR OFF - CURB DROP-OFF SENSOR ON



Grass Sensor On – Curb drop-off sensor Off:

Press the "PLAY/PAUSE" button and keep it pressed for 8 seconds until 3 consecutive beeps are heard and the PAUSE led flashes three times. This mode must only be used on models with the curb drop-off sensor installed, and it allows working with just the front grass detector sensors. This mode is recommended with uneven surfaces with lots of sharp dips or sparse grass.

GRASS SENSOR



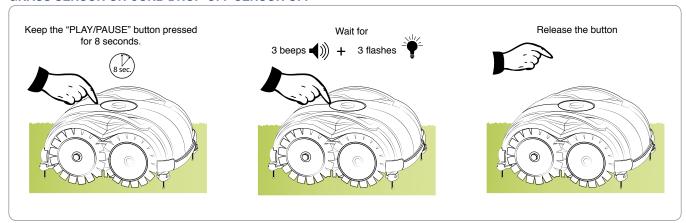


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Danger - Attention

The robot requires more space with this mode to change the direction. Respect the distances that are given for models without the curb drop-off sensor.

GRASS SENSOR ON CURB DROP-OFF SENSOR OFF

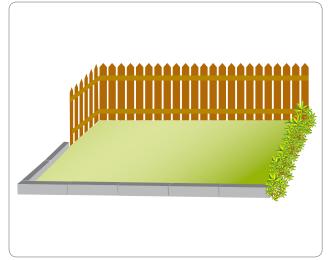


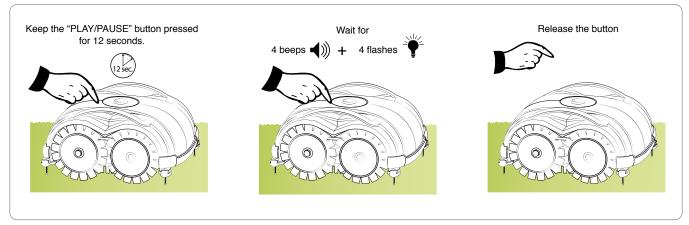
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Grass Sensor Off - Curb drop-off sensor Off:

Press the "PLAY/PAUSE" button and keep it pressed for 12 seconds until 4 consecutive beeps are heard and the PAUSE led flashes 4 times. This mode allows working without any sensors. It is useful in particular with poor lawn conditions. This mode should only be used if the lawn is protected by a wall, fence or hedge.

LAWN PROTECTION





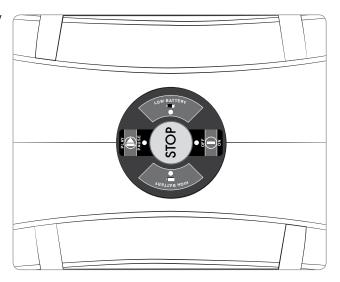
ROBOT SAFETY STOP

When using the robot, you may safely stop it at any time by pressing the "STOP" key.



Important

The robot safety stop is necessary when carrying out any maintenance and repairs (for example: cleaning, adjustments to cutting height, etc.).

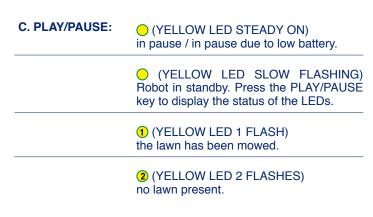


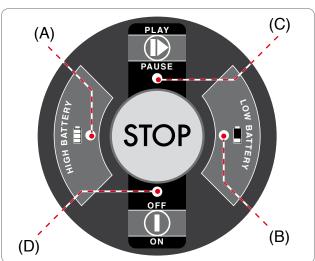
ROBOT STOP

the robot stops automatically if the following conditions are detected:

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- lawn mowed: the sensor has detected that the lawn has been mowed and therefore, does not require further mowing.
 Recharge the batteries and start the robot again after one or two days based on the growth of the grass.
- no grass present: the grass sensors have not detected the presence of grass for an extended period.
- discharged batteries: the batteries have used up their operating capacity.
- batteries in protection: when the batteries have reached a capacity which is lower than the level of the discharged batteries, the robot completely turns off without displaying any indication. In this case, connect the robot to the recharger. The robot will not turn on immediately, as normally occurs, but only after a few minutes.

IN PAUSE





PROLONGED INACTIVITY AND RESTARTING

If the robot has not been used for a long period of time, it is necessary to perform a series of operations to guarantee the correct functioning at the time of reuse.

- 1. Fully charge the battery before winter storage. Recharge the battery at least once every five months.
- 2. Have the routine maintenance performed by an authorised dealer. This is essential for keeping the robot in good condition. The assistance service usually includes the following operations:
 - total cleaning of the robot, the cutting blade and all the other moving parts.
 - · cleaning of the inside of the robot.
 - · checking of robot functioning.
 - · checking and, if necessary, replacement of any worn parts such as the cutting blade.
 - · checking of the battery capacity.
 - if necessary, the dealer may also load new software.
- 3. Accurately clean the robot (see "Robot Cleaning").
- 4. Check any worn or damaged components such as the cutting blade and evaluate their replacement.
- 5. Store the robot in a protected and dry place with an ambient temperature between 10° and 20° C, out of reach of foreign elements (children, animals, other foreign objects, etc.). Store the robot at a temperature below 20°C in order reduce the automatic discharge of the batteries.

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6. Disconnect the power plug from the power supply unit.

Restarting

Follow these procedures before restarting the robot after a long period of inactivity:

- Connect the plug of the power supply unit to the electrical outlet.
- 2. Reactivate the main electrical power supply.
- 3. Recharge the batteries of the robot for at least 4 hours.
- 4. Once the recharging has been completed, operate the robot normally.

BATTERY RECHARGE AFTER PROLONGED INACTIVITY



Danger - Attention

Do not recharge the robot in explosive and inflammable environments.

Position the robot next to the recharging zone.

- 1. Make sure the charging knobs are clean.
- 2. Check that the power supply unit is connected to the electrical power (110V or 220V).
- 3. Connect the black plug to the wheel containing the black "-" symbol.
- 4. Connect the red plug to the wheel containing the red "+" symbol.
- 5. Once connected, the robot automatically turns on to show the recharging level of the batteries. (see "meaning of LED combination").

At the end of the charging, disconnect the robot and press "OFF/ON".



Important

Recharge the battery at least every 5 months for lithium batteries.

OPERATING TIPS

Below are some helpful operating tips when using the robot:

- even after being suitably informed on the use of the robot, simulate some test manoeuvres on first use to identify the commands and main functions.
- · check and secure the fastening screws of the main components.
- mow the lawn frequently to avoid excessive growth of the grass.
- do not use the robot to mow grass which is shorter than 1 cm (0.40 ") in respect to the cutting blade.
- if the lawn is equipped with an automatic sprinkler system, make sure the robot finishes its work cycle at least one hour before the start of the watering to prevent damage to the robot itself and to the sprinklers.
- check the slope of the ground and make sure the maximum values admissible are not exceeded so that the use of the robot does not cause dangers.
- when using the robot, make sure the area to mow is clear of people (in particular, children, the elderly, or disabled people)
 and domestic animals to prevent safety risks to minimize chance of injury, operate the robot during times when the yard is
 not being used.
- do not use the robot in case of rain or strong humidity. The best results are obtained in the middle of the day.

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MAINTENANCE RECOMMENDATIONS



Important

During maintenance operations, use personal protection equipment indicated by the Manufacturer, especially when working on the blade. Before carrying out any maintenance, make sure the robot is turned OFF (see "Robot Safety Stop").

SCHEDULED MAINTENANCE TABLE

Frequency Part		Type of maintenance	Reference	
	Blade.	Clean and check the efficiency of the blade. Replace the blade if bent due to an impact or if it is worn out.	See "Robot Cleaning". See "Blade replacement".	
Weekly.	Curb drop-off sensor.	Remove any excess grass. Change the sensors if they are damaged.	See "Changing the curb drop-off sensors".	
	Charging knobs of the robot.	Clean and remove any oxidations.	See "Robot Cleaning".	
Monthly.	Robot.	Clean the robot.	See "Robot Cleaning".	

ROBOT CLEANING

1. Stop the robot safely (see "Robot safety stop").



Warning - Caution

Use protective gloves to avoid the risk of injury.

2. Clean the outside surfaces of the robot with a sponge using warm water and mild detergent. Wring the sponge out well to remove any excess water before use.



Warning - Caution

Do not use a water hose to clean the robot. Water could get inside the robot and damage the components.

- 3. Do not use solvents or benzene so as not to damage the painted surfaces and plastic components.
- 4. Do not wash the internal parts of the robot and do not use jets of pressurised water so as not to damage the electric and electronic components.





Warning - Caution

In order to not cause irreversible damage to the electric and electronic components, do not immerse the robot, in water because it is not watertight.

- 5. Check the lower part of the robot (cutting blade area and wheels) and remove any deposits and/or residuals that may obstruct the correct functioning of the robot.
- **6.** To remove any deposits and/or other residuals from the blade, use a suitable brush.
- Clean the knobs of the battery charger and removeany deposits or residuals caused by electric contacts with a dry cloth and, if necessary, with fine sandpaper.

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8. Check the level of sharpness of the cutting blade. If necessary sharpen.

TROUBLESHOOTING

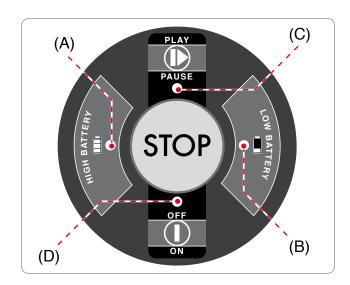
The information below is designed to help identify and correct any faults and/or malfunctions which may occur during operation. Some failures can be resolved by the user; others require specific technical skills or special abilities and therefore must only be resolved by qualified personnel with certified experience gained in the specific field of intervention.

Problem	Cause	Remedies
	Cutting blade damaged.	Replace the blade with a new one (see "Blade Replacement").
	Cutting blade fouled (tapes, ropes, plastic fragments, etc.).	Stop the robot safely (see "Robot safety stop"). Warning – Caution Use protective gloves to avoid the risk of injury. Remove the debris from the blade.
The robot is very noisy.	The robot was started too close to obstacles (less than 1 m. (40 ") away)	Stop the robot safely (see "Robot safety stop").
	or in the presence of unexpected obstacles (fallen branches, forgotten objects, etc.).	Remove the obstacles and restart the robot.
	Electric motor failure.	Have the motor repaired or replaced by the nearest authorised service centre.
	Too high grass.	Increase the cutting height (see "Cutting height adjustment").
		Carry out a preliminary cutting of the area with a normal lawnmower.
	Not enough work hours.	Start the robot every day.
The work area is not completely mowed.	Cutting blade fouled with deposits and/ or residuals.	Stop the robot safely (see "Robot safety stop"). Warning – Caution Use protective gloves to avoid the risk of injury. Clean the cutting blade.
	Cutting blade worn.	Replace the blade with original spare parts (see "Blade Replacement").
	Work area is too big compared to the actual capacity of the robot.	Adjust the work area (see "Technical Specifications").
	The batteries are about to end their life cycle.	Replace the batteries with original spare parts.
	The batteries do not recharge completely.	Clean and remove any oxidizations from the contact points of the batteries (see "Robot cleaning"). Recharge the batteries for at least 4 hours.

Problem	Cause	Remedy
The flashing of the LEDs signals a "wheel motor error" LED flashes. (1 FLASH of the green ON/	Uneven ground or ground with obstacles that impede movement.	Check that the lawn to mow is even and does not have any holes, stones or other obstacles. If so, fill in any holes and remove any obstacles (see "Preparation and defining the boundaries of the work areas").
OFF led - Right motor error). (2 FLASHES of the green ON/OFF led - Left motor error)	One or both wheel motors has a fault.	Have the motor repaired or replaced by the nearest authorised service centre.
	Cutting blade damaged.	Replace the blade with a new one (see "Blade Replacement").
The flashing of the LEDs signals a "motor/blade error".	Cutting blade fouled (tape, ropes, plastic fragments, etc.).	Stop the robot safely (see "Robot Safety Stop"). Warning – Caution Use protective gloves to avoid the risk of injury. Remove the cause of fouling of the blade.
(3 consecutive FLASHES of the green ON/OFF led).	The robot was started too close to obstacles (less than 1 m. (40.00 ") away) or in the presence of unexpected obstacles (fallen branches, forgotten objects, etc.).	Stop the robot safely (see "Robot safety stop"). Remove the obstacles and restart the robot.
OFF ON	Electric motor failure.	Have the motor repaired or replaced by the nearest authorised service centre.
	Too high grass.	Increase the cutting height (see "Cutting height adjustment"). Carry out a preliminary cutting of the area with a normal lawnmower.
The flashing of the LEDs signals a "tip-over error".	Ground with too much slope or with undefined borders.	Check the installation rules.
(4 consecutive FLASHES of the green ON/OFF led).	Tip-over sensor failure.	Try to restart the robot. If the problem persists, have the robot repaired by the nearest authorised service centre.
The flashing of the LEDs signals a "curb drop-off sensor error". (Led (ON/OFF) 5 consecutive flashes).	When the robot is started it does not detect the curb drop-off sensor data correctly.	Clean the sensors and start the robot again. If the problem continues, decide whether to start the robot with the curb drop-off sensors off, otherwise contact the Authorised Service Centre closest to you.
The power supply unit does not turn on.	No electricity.	Check that the power supply unit is correctly connected to the power outlet.

D. ON/OFF:

- 1 (1 FLASH OF THE GREEN LED) right motor error.
- 2 (2 FLASHES OF THE GREEN LED) left motor error.
- 3 (3 FLASHES OF THE GREEN LED) blade error.
- **4** (4 FLASHES OF THE GREEN LED) tip-over error.
- **(**5 FLASHES OF THE GREEN LED) curb drop-off sensor error.



PART REPLACEMENT

RECOMMENDATIONS FOR REPLACING PARTS



Important

Carry out the replacement operations and repairs according to the Manufacturer's instructions, or contact the Service Centre if these operations are not included in the manual.

BATTERY REPLACEMENT



Important

Replace the batteries at an authorised service centre.

BLADE REPLACEMENT

1. Stop the robot safely (see "Robot safety stop").



Important

Use protective gloves to avoid the risk of cutting your hands.

For replacement, use only the original blade suitable for the device.

MODEL	Cutting blade code
L50BEU - L50DEU	50_D0018_02

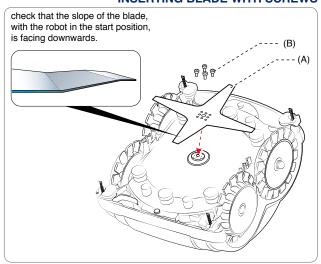
- Turn over the robot and position it so as not to ruin the covering hood.
- 3. Unscrew the screws (B) to remove the blade (A).
- 4. Insert a new blade and fasten the screws.
- **5.** Turn the robot over to its operating position.



Important

check that the slope of the blade, with the robot in the start position, is facing downwards.

INSERTING BLADE WITH SCREWS



CHANGING THE CURB DROP-OFF SENSOR

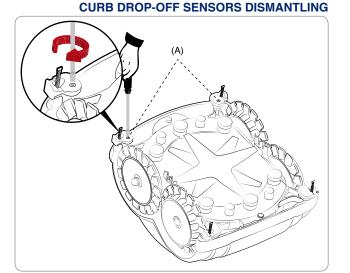
 Stop the robot in safe conditions (see "Safely stopping the robot").



Important

Use safety gloves to prevent risk of injury.

- Turn the robot over and place it so that the cover is not damaged.
- 3. Unscrew the screws (A) to remove the curb drop-off sensor.
- 4. Replace the curb drop-off sensor and fasten the screw.
- **5.** Turn the robot back over to the working position.



ROBOT DISPOSAL

- At the end of its useful lifespan, this product is classified as WEEE (waste electrical and electronic
 equipment). It must therefore not be disposed of as normal domestic waste, as mixed urban waste
 (undifferentiated) or as separated urban waste (differentiated).
- When it is time for disposal, the user must make sure that the product is recycled in compliance with the requirements of the local laws; in particular, electric and electronic components must be separated and sorted in authorised waste disposal centres for WEEE, or the product must be taken intact to the dealer when a new purchase is made. Abusive disposal of WEEE is punished by fines established by laws in force in the areas where said disposal occurs.



- Dangerous substances contained in electric and electronic equipment have potentially harmful effects on the environment and people's health so the user has a fundamental role in contributing to reuse, recycling and any other way of recovering WEEE.
- All parts, to be specifically separated and disposed of, are marked...



Danger - Attention

WEEE - Waste Electric and Electronic Equipment (WEEE) can contain dangerous substances with potentially harmful effects on the environment and people's health. WEEE must be disposed of correctly and only in specific disposal centres.

- Packaging Product packaging is made with recyclable materials and must be disposed of in a sustainable manner in special disposal containers or authorised waste disposal centres.
- Batteries Old or exhausted batteries contain harmful substances for the environment and people's health so must not be disposed of as normal domestic waste. The user must dispose of batteries in a sustainable way, in specific disposal containers or in authorised waste disposal centres.



EC DECLARATION OF CONFORMITY



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ZUCCHETTI Centro Sistemi S.p.A. Via Lungarno 305/A Terranuova B.ni (AR) ITALY

Zucchetti Centro Sistemi S.p.A. declares and assumes liability that the product:

battery-powered automatic lawnmower robot, model L50BEU - L50DEU, complies with the basic requisites for safety, health and environmental protection provided for by the following European Union directives:

Low voltage directive 2006/95/EC, electromagnetic compatibility directive 2004/108/EC, RoHS directive 2011/65/EC, WEEE directive 2012/99/EU, directive for noise emission in the environment 2005/88/EC:

complies with the following harmonised standards:

CEI EN 50338:2007-06 (safety) (for applicable parts);

CEI EN 60335-1:2013-01 and EN 60730-1:2011 (safety);

CEI EN 55014-1:2008-01+A1:2010-10+A2:2012-02 (emission);

CEI EN 61000-3-2:2007-04 +A1,A2:2011-09 and CEI EN 61000-3-3:2009-09 (emission);

CEI EN 55014-2:1998-10+A1:2002-08+A2:2009-08 (immunity);

CEI EN 61000-4-2:2011-04 and CEI EN 61000-4-4:2006-01+A1:2010-09 and CEI EN 61000-4-5:2007-10 and CEI EN 61000-

4-6:2011-10 and CEI EN 61000-4-11:2006-02 (immunity);

CEI EN 60529:1997-07+A1:2000-06 (protection rating of casings);

EN 50419:2006 (WEEE - Equipment marking);

also declares that, pursuant to directive 2005/88/EC, the LWA sound power level, out of a significant sample is 65.0 dB \pm 0.7 dB (weighted on A curve and referred to 1 pW), that the guaranteed LWA sound power level is less than 72 dB (weighted on A curve and referred to 1 pW) and that the technical folders in compliance with directives 2005/88/EC and 2006/42/EC are available c/o Zucchetti Centro Sistemi S.p.A. via Lungarno 305/a, Terranuova B.ni (ar), Italy.

Terranuova B.ni 04/12/2013 Bernini Fabrizio

(CEO)